

Application No. 10/566,082
Amtd. Dated: June 14, 2010
Reply to Office Action: April 1, 2010

Amendments to the Claims:

1. (Currently amended) A process of preparing a flax protein isolate, which comprises:

initially extracting flax oil seeds to remove mucilage therefrom, crushing the extracted oil seeds to recover oil and leave a meal, and processing the meal to recover a flax protein isolate therefrom, therefrom by: solubilizing protein in said flax oil seed meal by extracting using an aqueous sodium chloride solution having an ionic strength of at least about 0.10 M at a pH of about 5 to about 7 to provide an aqueous protein solution having a concentration of about 5 to about 40 g/L,

concentrating the aqueous protein solution to a concentration of at least about 150 g/L by a selective membrane technique,

diluting the concentrated protein solution with water having a temperature of less than about 15°C to form protein micelles, and

collecting and recovering said protein micelles as a protein micellar mass of flax protein isolate.

2. (Original) The process of claim 1 wherein said initial extraction of oil seeds to remove mucilage therefrom is effected using a mildly-alkaline aqueous solution of an alkaline material.

3. (Original) The process of claim 2 wherein said mildly-alkaline solution has a pH of about 7.5 to about 9.

4. (Currently amended) The process of claim 1 wherein said initial extraction of oil seeds to remove mucilage therefrom is effected by an aqueous solution of sodium bicarbonate at its natural pH.

5. (Original) The process of claim 2 which is effected at a temperature of about 30° to about 70°C.

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6. (Original) The process of claim 3 which is effected at a temperature of about 50°C.
7. (Currently amended) The process of claim 2 which is effected at a seed to solution ratio w/v ratio of about 1:1 to about 1:20.
8. (Currently amended) The process of claim 3 which is effected at a seed to solution ratio w/v ratio of about 1:5 to about 1:10.
9. (Original) The process of claim 2 wherein the aqueous solution has a concentration of about 0.2 to about 0.7 M of mildly-alkaline material.
10. (Original) The process of claim 2 which is effected by stirring the oil seed in the aqueous solution for about 15 to about 60 minutes.
11. (Original) The process of claim 3 which is effected by stirring the oil seed in the aqueous solution for about 30 to about 60 minutes.
12. (Original) The process of claim 2 wherein there are multiple extractions of the oil seed until no further mucilage is extracted from the oil seeds.
13. (Original) The process of claim 2 wherein said mildly-alkaline material is sodium bicarbonate.
14. (Original) The process of claim 1 wherein said initial extraction of oil seeds to remove mucilage therefrom is effected by stirring the oil seeds for about 15 to about 60 minutes in an aqueous solution of sodium bicarbonate having a pH of about 6.0 to about 7.5 at a temperature of about 30° to about 70°C and at a seed to solution ratio of about 1:1 to about 1:20.
15. (Original) The process of claim 14 wherein said aqueous solution of sodium bicarbonate has a concentration of about 0.2 to about 0.7M, said oil seeds to solution ratio is about 1:5 to about 1:10 and the stirring is effected from about 30 to about 60 minutes, and multiple extractions of the oil seed are effected until no further mucilage is extracted from the oil seeds.

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16. (Original) The process of claim 14 which is carried out using an about 0.5 M aqueous solution of sodium bicarbonate having a concentration of about 0.5 M at about 50°C and at a seed to solution ratio of about 1:10.

17. (Cancelled)

18. (Cancelled)

19. (Currently amended) The process of ~~claim 18~~ claim 1 wherein the protein micellar mass is dried.

20. (Currently amended) The process of ~~claim 18~~ claim 1 wherein residual liquid from the recovering of the protein micellar mass is processed to recover additional quantities of flax protein isolate.

21. to 25. (Cancelled)